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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,962	03/19/2004	Charles Maling	3052/1	7882
23638	7590	09/09/2004	EXAMINER	
ADAM EVANS, P.A. (formerly Adams, Schwartz & Evans, P.A.) 2180 TWO WACHOVIA CENTER CHARLOTTE, NC 28282			BENTON, JASON	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,962

Applicant(s)

MALING, CHARLES

Examiner

Jason Benton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 15-18 and 25 is/are rejected.
- 7) ☒ Claim(s) 11, 13, 14, 19-24 and 26-31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/17/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Beveridge.

The patent by Beveridge (3,621,758) shows a moving cylinder assembly. A piston (24) is connected to a crank (29) for reciprocal movement therewith. A cylinder defines a chamber for receiving and engaging the piston. The cylinder is adapted for reciprocal oscillating movement with the piston. A housing is immediately embracing the cylinder and defines a slot through which the piston is positioned to allow for oscillating movement of the piston within the slot. The immediate embracement of the cylinder by the housing minimizes leakage between the cylinder and the housing. The cylinder assembly can be adapted for use in an engine, compressor, pump, or vacuum pump.

The cylinder is open on opposite ends for permitting the piston to approach the housing whereby dead space within the cylinder is minimized (Fig. 7).

Externally provided pressure control of an interface between the cylinder and the housing helps minimize leakage between the cylinder and the housing.

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The interface between the cylinder and the housing is spherical (Fig. 7). The interface between the cylinder and the housing can also be cylindrical (Fig. 4). An end of the piston conforms to the contour of an inner surface of the piston (Fig. 12). The cylinder is mounted for rotational oscillation within the housing.

Regarding claim 9, since no structure was defined in the claim, any vibrational forces would result in linear oscillation within the housing.

The cylinder and housing form at least one sealed cavity serving as a pneumatic spring aiding momentum reversals of the cylinder. The housing defines a first entrance port (214) and a first exit port (206).

The cylinder defines at least a first aperture. Reciprocal movement of the piston yields oscillation of the cylinder whereby the first entrance port and the first exit port are opened and closed to the cylinder chamber by intermittent alignment with the first aperture (Fig. 4).

The first entrance port and the first exit port are crescent shaped.

A compression means (piston) and an ignition chamber are in communication with the first entrance port. The cylinder assembly extracts mechanical power from combustion and exhausts combustion byproducts with rotation of the crankshaft.

The piston comprises a piston head connected to a piston rod connected to the crank. The cylinder further comprises an alignment band having a hole therein for receiving the piston rod therethrough. The alignment band maintains alignment of the cylinder with the piston rod, and movement of the piston rod and piston head imparts oscillating movement to the cylinder.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge.

The patent by Beveridge does not specifically show a second cylinder. It is the view of the examiner that adapting the cylinder arrangement of Beveridge to include multiple cylinders would be an obvious choice of design to anyone well skilled in the internal combustion engine field. No new or unexpected results are achieved.

Allowable Subject Matter

Claims 11, 13, 14, 19-24, and 26-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Benton whose telephone number is (703) 305-6800. The examiner can normally be reached on flex.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (703) 308-1946. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JB



Henry C. Yuen
Supervisory Patent Examiner
Group 3700